

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Frank Plummer et al.

Application No.: 10/555,073

Art Unit: 1648

Filing or 371 (c) Date: 12-19-2006

Examiner: HUMPHREY, LOUISE WANG  
ZHIYING

Confirmation No.: 2731

For: SARS VIRUS NUCLEOTIDE AND AMINO ACID SEQUENCES AND USES  
THEREOF

MAIL STOP AMENDMENT

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

ANTEDATING DECLARATION UNDER 37 C.F.R. §1.131

We, Frank PLUMMER, Heinz FELDMANN, Steven JONES, Yan LI, Nathalie BASTIEN, Robert BRUNHAM, Angela BROOKS-WILSON, Robert HOLT, Christopher UPTON, Rachel ROPER, Caroline ASTELL, and Steven JONES pursuant to 37 C.F.R. § 1.131, hereby declare that:

1. We are the co-inventors of the above-identified patent application.
2. Prior to April 23, 2003, a group of us, namely, Drs. Frank PLUMMER, Heinz FELDMANN, Steven JONES, Yan LI, Nathalie BASTIEN worked at Public Health Agency of Canada. This group was involved in identification, characterization and isolation of the Severe Acute Respiratory Syndrome (SARS) virus.
3. Prior to April 23, 2003, Dr. Robert BRUNHAM worked at the BC Centres for Disease Control and was also involved in identification, characterization and isolation of the SARS virus.
4. Prior to April 23, 2003, another group of us, namely, Drs. Angela BROOKS-WILSON, Robert HOLT, Caroline ASTELL, and Steven JONES worked at Canada's Michael Smith Genome Sciences Centre, Canada. This group was involved in developing the strategy for sequencing of the SARS virus. This group made a library of clones of the SARS sequence using viral nucleic acid provided by Drs. Plummer and Brunham. The sequencing was performed by reverse transcription followed by cloning and shotgun sequencing, rather than the use of numerous primers targeted to putative conserved regions. Additionally, we were performing analysis of the nucleic acid sequence of the SARS virus.

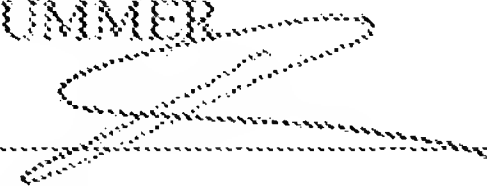
5. Prior to April 23, 2003, a group of us, namely, Drs. Christopher UPTON and Rachel ROPER worked at the University of Victoria and were also involved in analyzing the SARS virus genome and assisting in determining the viral identity.
6. Prior to April 23, 2003, Drs. Frank PLUMMER and Robert BRUNHAM and personnel under their supervision had identified, characterized and isolated a novel coronavirus causing SARS.
7. Prior to April 2003, Drs. Frank PLUMMER and Robert BRUNHAM had agreed about a collaboration to sequence the genome of the SARS virus with Dr. Caroline ASTELL.
8. Prior to April 23, 2003, Drs. Angela BROOKS-WILSON, Robert HOLT Caroline ASTELL, and Steven JONES at the Michael Smith Genome Sciences Centre received a deposit of 50 ng of genetic material from the Tor2 isolate of the SARS virus from Dr. Frank PLUMMER at the Level 4 National Microbiology Laboratory in Winnipeg, Canada. The virus was derived from a patient in Toronto, Canada.
9. Prior to April 23, 2003, Drs. Angela BROOKS-WILSON, Robert HOLT Caroline ASTELL, and Steven JONES at the Michael Smith Genome Sciences Centre had generated a library of clones by reverse transcription for shotgun sequencing.
10. Prior to April 23, 2003, Drs. Angela BROOKS-WILSON and Caroline ASTELL had sequenced and analyzed at least the following clones of the Tor2 strain: SARS11.B21, SARS120.CB; SARS120.13B21; and SARS12.13BR. These were referred to as contigs. See Appendix A which is a printout of representative contigs, and is a true and accurate copy of our internal database entries where these exemplary sequences are set forth, with dates redacted.
11. Prior to April 23, 2003, sequence information from the sequenced clones were assembled into a single sequence with the assistance of Dr. Steven JONES.
12. Prior to April 23, 2003, the sequence was posted on a public database, Zope/Plone page on the Michael Smith Genome Sciences Centre's Apache server, a complete SARS genomic nucleotide sequence of 29,751 nucleotides of the Tor2 isolate of the SARS virus and submitted the sequence to a public database. See, EXHIBIT B, which is a true and accurate copy of the published sequence with dates redacted.
13. Accordingly, prior to April 23, 2003, we had conceived and reduced to practice the complete SARS virus genomic sequence. To the extent that anyone questions whether this is an actual reduction to practice we continued to work diligently in this area, until filing of our provisional application.

We hereby declare that all statements made herein of own knowledge are true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that any such willful false statements may jeopardize the validity of the application or any patent issued thereon.

\_\_\_\_\_  
Date

04/30/2010

\_\_\_\_\_  
FRANK PLUMMER



\_\_\_\_\_  
Date

\_\_\_\_\_  
HEINZ FELDMANN

\_\_\_\_\_  
Date

\_\_\_\_\_  
STEVEN M. JONES

\_\_\_\_\_  
Date

\_\_\_\_\_  
YAN LI

\_\_\_\_\_  
Date

\_\_\_\_\_  
NATHALIE BASTIEN

\_\_\_\_\_  
Date

\_\_\_\_\_  
ROBERT BRUNHAM

\_\_\_\_\_  
Date

\_\_\_\_\_  
ANGELA BROOKS-WILSON

\_\_\_\_\_  
Date

\_\_\_\_\_  
ROBERT HOLT

\_\_\_\_\_  
Date

\_\_\_\_\_  
CHRISTOPHER UPTON

\_\_\_\_\_  
Date

\_\_\_\_\_  
RACHEL ROPER

\_\_\_\_\_  
Date

\_\_\_\_\_  
CAROLINE ASTELL

\_\_\_\_\_  
Date

\_\_\_\_\_  
STEVEN JONES

We hereby declare that all statements made herein of own knowledge are true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that any such willful false statements may jeopardize the validity of the application or any patent issued thereon.

\_\_\_\_\_  
Date

\_\_\_\_\_  
FRANK PLUMMER

\_\_\_\_\_  
Date

\_\_\_\_\_  
HEINZ FELDMANN

\_\_\_\_\_  
Date

\_\_\_\_\_  
STEVEN JONES

\_\_\_\_\_  
Date

\_\_\_\_\_  
YAN LI

\_\_\_\_\_  
Date

\_\_\_\_\_  
NATHALIE BASTIEN

\_\_\_\_\_  
Date

\_\_\_\_\_  
ROBERT BRUNHAM

\_\_\_\_\_  
Date

\_\_\_\_\_  
ANGELA BROOKS-WILSON

\_\_\_\_\_  
Date

\_\_\_\_\_  
ROBERT HOLT

\_\_\_\_\_  
Date

\_\_\_\_\_  
CHRISTOPHER UPTON

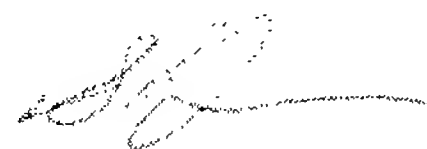
\_\_\_\_\_  
Date

\_\_\_\_\_  
RACHEL ROPER

\_\_\_\_\_  
Date

\_\_\_\_\_  
CAROLINE ASTELL

\_\_\_\_\_  
April 28, 2010

\_\_\_\_\_  


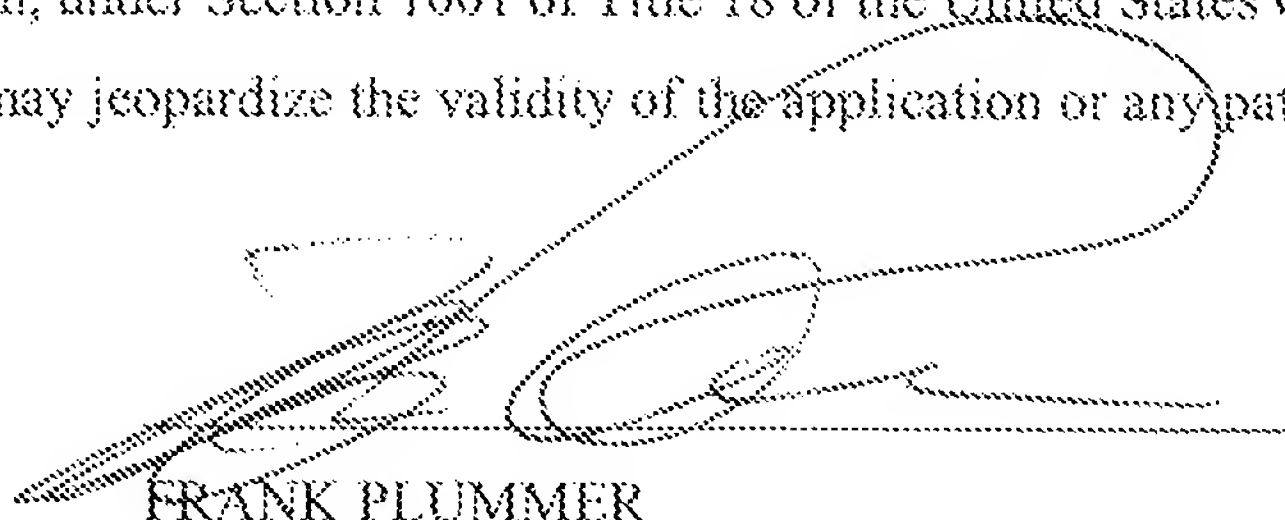
\_\_\_\_\_  
Date

\_\_\_\_\_  
STEVEN JONES

We hereby declare that all statements made herein of own knowledge are true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that any such willful false statements may jeopardize the validity of the application or any patent issued thereon.

APR 27 2010

Date



FRANK PLUMMER

Date April 27, 2010

HEINZ FELDMANN

Date April 30, 2010

STEVEN M. JONES

Date April 27, 2010

YAN LI

Date

NATHALIE BASTIEN

Date

ROBERT BRUNHAM

Date

ANGELA BROOKS-WILSON

Date

ROBERT HOLT

Date

CHRISTOPHER UPTON

Date

RACHEL ROPER

Date

CAROLINE ASTELL

Date

STEVEN JONES

We hereby declare that all statements made herein of own knowledge are true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that any such willful false statements may jeopardize the validity of the application or any patent issued thereon.

\_\_\_\_\_  
Date

\_\_\_\_\_  
FRANK PLUMMER

\_\_\_\_\_  
Date

\_\_\_\_\_  
HEINZ FELDMANN

\_\_\_\_\_  
Date

\_\_\_\_\_  
STEVEN JONES

\_\_\_\_\_  
Date

\_\_\_\_\_  
YAN LI

\_\_\_\_\_  
Date

\_\_\_\_\_  
NATHALIE BASTIEN

\_\_\_\_\_  
Date

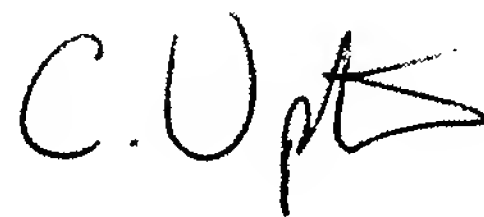
\_\_\_\_\_  
ROBERT BRUNHAM

\_\_\_\_\_  
Date

\_\_\_\_\_  
ANGELA BROOKS-WILSON

\_\_\_\_\_  
Date

\_\_\_\_\_  
ROBERT HOLT



\_\_\_\_\_  
April 28, 2010

\_\_\_\_\_  
Date

\_\_\_\_\_  
CHRISTOPHER UPTON

\_\_\_\_\_  
Date

\_\_\_\_\_  
RACHEL ROPER

\_\_\_\_\_  
Date

\_\_\_\_\_  
CAROLINE ASTELL

\_\_\_\_\_  
Date

\_\_\_\_\_  
STEVEN JONES